GOVERNMENT OF INDIA
WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION
LOK SABHA

UNSTARRED QUESTION NO:259
ANSWERED ON:25.02.2016
Impact of Rising Sea Level on Inland Water Bodies
Tharoor Dr. Shashi

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION be pleased to state:

(a) whether the Government is aware that the Fifth Assessment Report of the Inter-governmental Panel on Climate Change (IPCC) has estimated that global mean sea level has risen by 190 mm between 1901 and 2010 and is further estimated to increase over the next few years;

(b) if so, whether the Government is also aware that the United National Convention on Climate Change (UNCCC) has observed that the rise in the sea-level would lead to salt-water intrusion into inland water-bodies, causing contamination of inland fresh water, if so, the details thereof;

(c) whether the Government proposes to conduct a study to map salt-water contamination in inland fresh water-bodies, due to the rising sea-levels in coastal areas in the country including Kerala, if so, the details thereof; and

(d) the steps taken/to be taken by the Government to address the issue?

Answer

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

(PROF. SANWAR LAL JAT)

(a) Yes, Madam. The Government is aware that the Fifth Assessment Report (AR5) of the Inter-governmental Panel on Climate Change (IPCC) has estimated that global mean sea level has risen by 190 mm between 1901 and 2010 and is further estimated to increase over the next few years. As per this report, over the period 1902-2010, global mean sea level rose by 0.19(0.17 to 0.21)m. The rate of sea level rise since the mid 19th century has been larger than the mean rate during the previous two millennia. The global mean sea level may continue to rise during the 21st century.

(b) Yes, Government is also aware that the United Nations Framework Convention on Climate Change (UNFCCC) has also acknowledged through its Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) that due to sea level rise projected through the 21st century and beyond, coastal systems and low lying areas may increasingly experience adverse impacts such as submergence, coastal flooding and coastal erosion. Salt-water intrusion may reduce the quality and quantity of freshwater supplies due to sea level rise. Higher sea levels could also cause extreme events such as high tides, storm surges, and seismic sea waves (tsunami) to reap more destruction. Rising sea levels are already contaminating underground fresh water supplies in some regions of the World.

(c) National Institute of Hydrology has carried out research studies to investigate, map and model the salt-water contamination of inland fresh water aquifers. These studies have been carried out in Krishna Delta region of Andhra Pradesh, Coastal tracts of North Goa, Minjur region of Tamil Nadu and Coastal Saurashtra (Porbandar region) of Gujarat. The Department of Environment and Climate Change, Government of Kerala has entrusted National Centre for Earth Science Studies, Kerala to study the impact of Sea Level Rise on Kerala Coast with the following objectives:

i. Assessment of areas of probable inundation due to projected Sea Level Rise along the coast and backward banks,
ii. Identification of impact zones in the form of salinity ingress, vulnerable ecosystems and infrastructure including possible damages to coastal protection measures,
iii. Assessment of damages to flora, fauna and habitats and impacts on livelihood requirements and activities due to changes in physical parameters like salinity,
iv. Assessment of economic implications of impact such as loss of land and infrastructure, livelihood activities, modifications of wetland systems, ground water contamination due to salinity etc.
v. Assessment of financial implications to adaptation strategies and mitigation measures,
vi. Based on the study, prioritisation of zones/hotspots and preparation of strategies for adaptation and mitigation.

(d) The Government of India has launched National Water Mission (NWM) under National Action Plan for Climate Change (NAPCC) with the objective of "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management". One of the identified goals of the Mission is "focused attention to vulnerable areas including over-exploited areas". A Technical Committee for "Adopting Suitable Protection Measures for Prevention of Salinity Ingress in the Coastal States/Union Territories" has been constituted by the Ministry of Water Resources, River Development and Ganga Rejuvenation under the Chairmanship of Chairman, Central Water Commission. The Committee has prepared a base line document of salinity ingress problems and protection measures in coastal States/Union Territories of Peninsular India.

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